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Multimodal Physiotherapy in Multilevel Lumbar Disc Herniation with Suspected Sciatic Nerve Entrapment: A Case Report

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Abstract

Background: Lumbar disc herniation may produce radiating pain, weakness, and activity limitation. Evidence describing physiotherapy management during acute inpatient care remains limited, and symptoms related to lumbar pathology may overlap with suspected sciatic nerve entrapment.

Objective: To describe the assessment, physiotherapy management, and clinical changes observed in a patient with multilevel lumbar disc herniation and suspected sciatic nerve entrapment during inpatient care.

Methods: This single patient case report involved a 59-year-old male fisherman with disc herniation at L3 to L4, L4 to L5, and L5 to S1. Assessment included the Visual Analogue Scale, Manual Muscle Testing, Lasègue test, hip provocation tests and the Indonesian Oswestry Disability Index. Two physiotherapy sessions were delivered on 2 and 4 May 2026 and included short wave diathermy, manual therapy, neural mobilization, Dynamic Neuromuscular Stabilization, stretching, walking exercise, and additional procedures documented at the second session. Outcomes were compared descriptively.

Results: VAS decreased from 1 to 0 at rest, 5 to 1 during movement, and 7 to 2 with palpation. Hip flexor MMT increased from 3/5 to 4/5, and the Lasègue test changed from positive at 60° to negative beyond 90°. Baseline ODI was 40% and was not reassessed. Structured post discharge follow up was not documented.

Conclusion: Short term improvement in pain, hip flexor performance, and the Lasègue finding was observed during multimodal inpatient care. The absence of a comparator, brief observation, incomplete information on medication and other confounders, and measurement variability preclude causal attribution to the intervention or individual components.

Keywords
Intervertebral Disc Displacement; Low Back Pain; Physical Therapy Modalities; Sciatica; Case Reports

Introduction

Lumbar disc herniation is a common spinal condition in which displacement of disc material may contribute to nerve root irritation, low back pain, radiating leg pain, weakness, and activity limitation. Low back pain remains a major contributor to disability worldwide, with the global burden projected to increase substantially with population growth and ageing.[1–3] The clinical course of lumbar disc herniation is heterogeneous. Mechanical compression may coexist with inflammatory processes, while spontaneous resorption of herniated disc material may contribute to symptom improvement in some patients.[4]

Occupational exposure may also influence the development or persistence of low back symptoms. A systematic review and meta analysis found moderate evidence for associations between chronic low back pain and occupational lifting or carrying and non neutral postures, whereas evidence for prolonged static sitting or standing was weaker.[5] Therefore, prolonged sitting in a fisherman should be regarded as a potentially relevant exposure in the individual clinical context rather than as an established causal explanation for the patient's disc pathology. Studies of fishermen have also described substantial musculoskeletal symptom burden and occupational physical loading, although the specific exposure patterns vary across fishing tasks and settings.[6–9]

Radiating pain along the sciatic distribution is not specific to lumbar disc pathology. Deep gluteal syndrome describes sciatic nerve entrapment or irritation in the subgluteal region and may clinically overlap with lumbar radicular disorders.[10,11] The absence of a single definitive diagnostic reference standard for many presentations of deep gluteal syndrome means that diagnosis relies on a combination of history, physical examination, exclusion of competing diagnoses, and, when available, appropriate imaging.[10–12] Consequently, positive provocation findings involving the piriformis region may support a clinical hypothesis but should not be interpreted as independently confirming piriformis syndrome or sciatic nerve entrapment.

The diagnostic distinction is particularly relevant when lumbar imaging demonstrates multilevel disc pathology. Imaging can establish structural abnormalities but does not, by itself, determine which abnormality is responsible for the patient's symptoms.[2,3] Conversely, a positive straight leg raise or Lasègue test may support the presence of lumbar radicular irritation but is not sufficient to identify an extrapelvic or deep gluteal entrapment site.[12,13] In the present case, the combination of multilevel disc herniation, radiating leg pain, a positive Lasègue test, and pain reproduced during piriformis related provocation led the treating physiotherapist to consider a suspected deep gluteal component in addition to the documented lumbar disc pathology. This represents clinical reasoning rather than confirmation of a second structural diagnosis.

Physiotherapy during acute inpatient care may differ from outpatient rehabilitation because treatment is delivered within a limited hospital stay and may prioritize symptom control, safe mobility, and basic functional activity. Global data indicate that hospital admission for low back pain represents a relatively small proportion of hospital admissions overall, but affected patients may remain hospitalized for several days.[14] Delays in interdisciplinary management of hospitalized patients with low back pain may contribute to a prolonged length of stay, particularly when comprehensive care is delayed.[15] These circumstances create a clinically relevant context for documenting how physiotherapy is delivered when only a small number of treatment sessions are available.

Evidence supporting individual physiotherapy components is generally derived from populations and treatment schedules that differ from a two-session inpatient case. Short wave diathermy has been studied in patients with lumbar disc herniation, neural mobilization has been evaluated in lumbar radiculopathy, and Dynamic Neuromuscular Stabilization has been examined in longer exercise programs.[16–20] These studies provide context for clinical decision making but cannot establish that any individual modality caused the changes observed in this case. The same consideration applies to stretching, walking exercise, and McKenzie based approaches, whose supporting studies commonly involve repeated treatment over longer periods.[21–24]

The reporting gap addressed by this case is therefore not validation of a specific entrapment diagnosis. Instead, the case provides a detailed description of clinical reasoning and multimodal physiotherapy management in an acute inpatient setting involving a patient with documented multilevel lumbar disc herniation and suspected sciatic nerve entrapment. The objective of this case report was to describe the assessment process, physiotherapy management, and short-term clinical changes observed across two inpatient physiotherapy sessions while maintaining an explicit distinction between imaging findings, clinical hypotheses, and physiotherapy problems.

Methods

This report describes a single patient case managed in the inpatient physiotherapy unit of RSKD Dadi, Makassar, South Sulawesi, Indonesia. The report was prepared with reference to the CARE case report guideline.[25] Patient selection and clinical eligibility. The patient was a 59-year-old male fisherman who had been admitted to hospital since 30 April 2026 with documented multilevel lumbar disc herniation involving L3 to L^4, L4 to L^6, and L5 to S^1. He was selected purposively because he had symptoms considered relevant to lumbar disc pathology and was able to participate in conservative physiotherapy during hospitalization. The original case record did not report a formal inclusion and exclusion checklist. Documented findings included normal sensory examination and no irreversible motor deficit. A structured red flag screening procedure was not specified in the source record and therefore cannot be reconstructed retrospectively. Comorbidities and the complete medication or analgesic regimen during hospitalization were also not reported and require author confirmation before submission. Conservative physiotherapy was considered feasible on the basis of the documented ability to participate and the absence of reported irreversible motor deficit. Because the source record did not specify a formal red flag screening protocol, no additional negative red flag findings are inferred in this report.

The assessment included history taking, observation of static and dynamic posture and movement, basic movement examination of the lumbar region and lower limb, hip range of motion, palpation, Manual Muscle Testing (MMT), sensory examination, and pain assessment using the Visual Analogue Scale (VAS) at rest, during movement, and with palpation. Specific tests included the Lasègue test, three-dimensional provocation involving the gluteus medius, gluteus maximus, and piriformis regions, FABER or Patrick test, FADIR or Anti Patrick test, bridging with approximation, and lumbar rotation. The Lasègue test was used as a clinical assessment of possible lumbar radicular irritation; its result was interpreted in conjunction with the broader clinical presentation rather than as a stand-alone diagnostic test.[13] The source record did not provide sufficient procedural detail to establish the measurement reliability of the three dimensional provocation procedure or the exact standardization used for MMT. These assessments are therefore reported as documented clinical findings rather than as diagnostic reference standards.

Functional disability was assessed with the validated Indonesian version of the Oswestry Disability Index (ODI).[26] The baseline ODI score was 18/45, corresponding to 40% and categorized as moderate disability. ODI was administered at the initial assessment only and was not repeated at the second visit. Therefore, ODI was treated as a baseline descriptive measure and not as an outcome demonstrating change.

CT of the vertebrae was performed by the radiology unit and documented mild wedge deformity at T, thoracolumbar spondylosis, and intervertebral disc herniation at L3 to L^4, L4 to L^6, and L5 to S^1.[22] The CT findings establish the documented structural abnormalities but did not confirm piriformis syndrome or sciatic nerve entrapment. The suspected deep gluteal component was based on the coexistence of radiating symptoms, a positive Lasègue test, and pain reproduced during piriformis region provocation. FABER and FADIR were negative. Because no reference standard or dedicated deep gluteal imaging was available in the source record, the suspected sciatic nerve entrapment should be regarded as a clinical hypothesis or differential component rather than a confirmed diagnosis.[6,7]

Two sessions were delivered on 2 and 4 May 2026. The original treatment record documented short wave diathermy, manual therapy, neural mobilization, Dynamic Neuromuscular Stabilization, stretching, and walking exercise. McKenzie exercise and additional soft tissue techniques were introduced at the second session. The original manuscript also referred to anxiety management and diaphragmatic breathing, but session specific dose and procedural details were not documented in the intervention table. To avoid inventing undocumented treatment parameters, these components are not presented as formal components of the reproducible intervention protocol in the revised article. The intervention matrix below distinguishes the documented core treatment from the additional procedures introduced at the second session. For session 2, only the continuation of the documented core program and the introduction of the recorded additional procedures can be reported with confidence. Exact positioning, sequence, intensity, rest intervals, therapist hand placement, progression or regression criteria, and stopping criteria were not available in the source record.

The documented dose of the first session was as follows: short wave diathermy at 40 W using a coplanar technique for 10 minutes; muscle release of the erector spinae and piriformis regions for 3 minutes with five repetitions; slump sciatic nerve glide for eight repetitions over one to two sets for 3 minutes; bridging for eight counts and three repetitions for 3 minutes; Dynamic Neuromuscular Stabilization level C^6 for eight counts and three repetitions for 3 minutes; neuromuscular or soft connective tissue release for 5 to 8 repetitions for 3 minutes; stretching of the right piriformis, hamstring, erector spinae, gluteal, and tensor fascia latae muscles for 2 to 3 repetitions over 5 minutes; and walking exercise for 10 m over two rounds for 5 minutes. The original record did not specify standardized intensity, rest interval, exact therapist hand placement, or predefined stopping criteria for each manual technique. These details should be added by the authors if they are available.

At the second session, the documented core program was continued, with additional soft tissue techniques consisting of skin rolling, deep tissue or elbow technique, friction, and longitudinal massage, together with McKenzie exercise. The stated rationale was the patient's favorable clinical response after the first session. Exact dose and sequence for the newly added techniques were not documented and should be confirmed by the authors before publication. Medication exposure was a potential confounder, but the available material did not contain a complete medication or analgesic regimen for the observation period. Accordingly, medication effects could not be separated from the observed temporal changes.

VAS, MMT of the right hip flexors, and the Lasègue test were compared descriptively between the initial assessment and the second visit. The same physiotherapist performed the assessments. No inferential statistical analysis was performed because

this was a single patient case report. No effect size or confidence interval was calculated. The clinical changes were interpreted as temporal changes observed during the treatment period and not as causal estimates of treatment effectiveness.

The source manuscript states that the patient provided written informed consent for use and publication of anonymized clinical information. The previous statement that formal ethical approval was unnecessary was not retained because the applicable institutional determination was not documented. The authors must confirm whether this case report required ethics committee review or institutional exemption and provide the relevant approval or exemption number if applicable.

The temporal relationship between symptom development, hospital admission, physiotherapy sessions, and reassessment is summarized in Table 1. For a visual representation of the same documented sequence, Figure 1 presents the clinical timeline without adding undocumented procedures, discharge events, or follow up outcomes.

Table 1. Chronological Clinical Timeline and Availability of Case Information

Date/period	Clinical event	Information available in source record
Approximately 1 month before admission	Symptom onset	Mild right leg radiating pain developed, extending from the buttock to the lateral calf.
Approximately 1 week before admission	Clinical worsening	Pain became more severe and intermittent.
Before 30 April 2026	Previous healthcare visits	The patient attended two other hospitals and reportedly received pharmacological treatment without meaningful improvement.
30 April 2026	Hospital admission	Admitted to RSKD Dadi with documented multilevel lumbar disc herniation.
Initial physiotherapy assessment	Baseline assessment	VAS, MMT, Lasègue, selected provocation tests, sensory examination, and baseline ODI were documented. CT findings were available.
2 May 2026	Physiotherapy session 1	Multimodal treatment was delivered, including SWD, manual therapy, neural mobilization, DNS, stretching, and walking exercise.
4 May 2026	Physiotherapy session 2 and reassessment	Patient reported less frequent radiating pain. Additional soft tissue techniques and McKenzie exercise were introduced. VAS, MMT, and Lasègue were reassessed.
After 4 May 2026	Discharge and follow up	Discharge date, discharge status, medication changes, and structured post discharge follow up were not documented in the source record and require author confirmation.

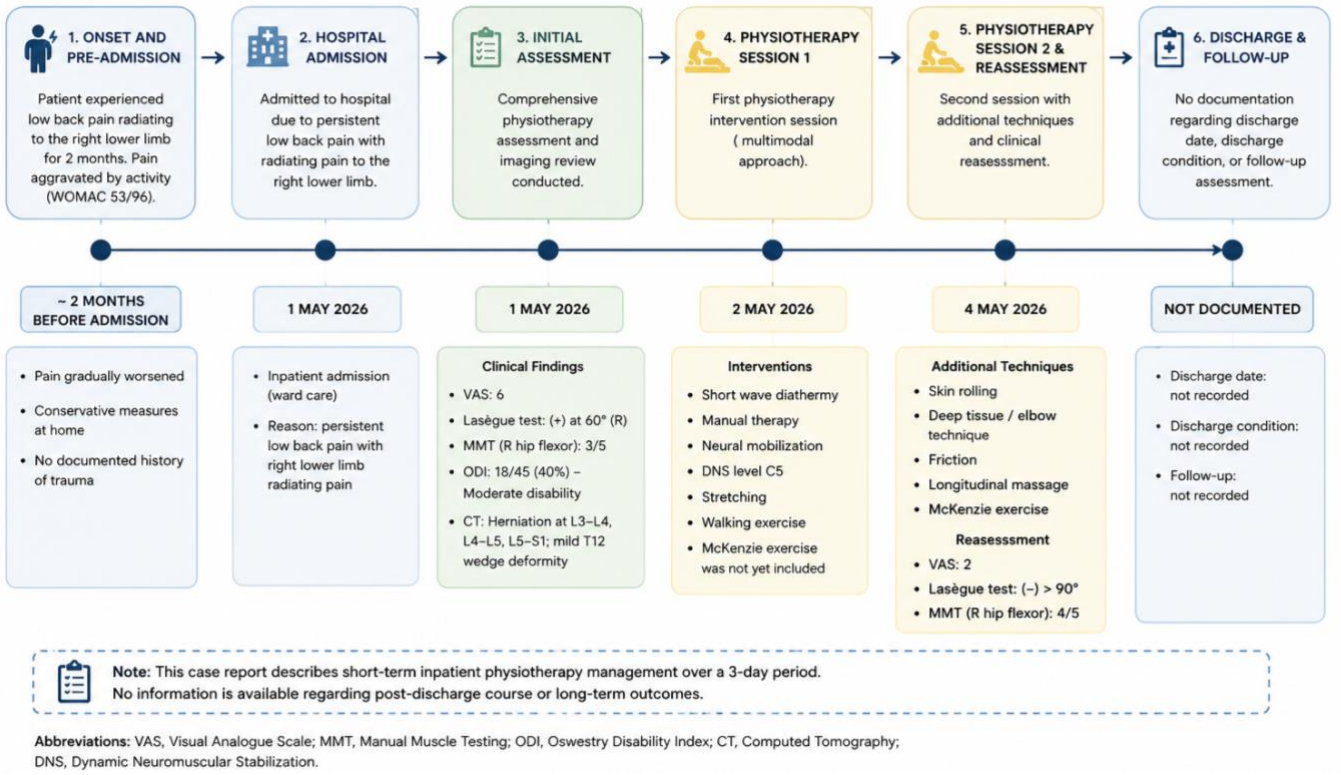


Figure 1. Clinical timeline from symptom onset to the second physiotherapy assessment.

Results

The chronological sequence of symptom development, hospital admission, physiotherapy management, and reassessment is summarized in Table 1. The available timeline covers the period from approximately one month before admission to the second physiotherapy session on 4 May 2026. Information after that date was incomplete, particularly regarding discharge and post discharge follow up, and is therefore identified as unavailable rather than reconstructed.

Tn. B was a 59-year-old male fisherman who presented with right leg radiating pain extending from the buttock to the lateral calf. Symptoms had been present for approximately one month and had worsened during the preceding week. He had previously visited two hospitals and received pharmacological treatment without meaningful improvement. His occupational history included prolonged sitting while working on a boat. The available record did not provide a complete list of comorbidities or medications during

hospitalization. The patient had reportedly received pharmacological treatment during previous healthcare visits, but the available material did not specify the agents, doses, timing, or response during the present inpatient observation period. No additional demographic or clinical characteristics were added because they were not available in the source material.

Static inspection described a fatigued facial appearance and an intravenous line in the right hand. At presentation, the patient used a wheelchair but was able to walk slowly and independently. Palpation revealed tenderness in the piriformis, gluteus maximus, and erector spinae regions without edema or increased local temperature. Lumbar movement was reported within normal limits without pain. Active right hip flexion was incomplete and painful, passive movement produced an empty end feel, and maximal resisted testing of the right hip flexors was not tolerated. The available record did not describe a formal quantified assessment of sitting tolerance, activities of daily living, or other functional performance measures at baseline. Consequently, the functional description in this report remains limited to the observed mobility and the baseline ODI rather than implying recovery across unmeasured activities.

Baseline VAS scores were 1 at rest, 5 during movement, and 7 with palpation. Right hip flexor MMT was 3/5, while other muscle groups were reported as 5/5. Sensory examination was within normal limits. The Lasègue test was positive at 60°. Three-dimensional provocation of the gluteal and piriformis regions reproduced pain. FABER and FADIR were negative. Bridging with approximation produced mild pain that increased with approximation, whereas lumbar rotation did not reproduce pain. Baseline ODI was 18/45, or 40%, corresponding to moderate disability. CT showed mild T^{22} wedge deformity, thoracolumbar spondylosis, and disc herniation at L3 to L^4, L4 to L^6, and L5 to S^1. The documented findings supported the treating physiotherapist's clinical reasoning but did not establish a separate deep gluteal diagnosis. No dedicated imaging of the deep gluteal region or diagnostic reference standard was reported.

The physiotherapy problem list included pain, reported anxiety, right hip flexor weakness, muscle tightness, and limitations in activities of daily living in the context of documented lumbar disc herniation. The revised ICF formulation is presented as a functional description rather than as a claim that the disc position itself was changed. The available record identified pain, lower limb pain, walking limitation, toileting and body care activities, and work participation as relevant domains, with immediate family support identified as an environmental factor. The documented ICF entries are reproduced as source-based categories and functional descriptors. Their presence in the case formulation should not be interpreted as independent validation of every code, because the available documents did not contain a separate formal ICF verification record.

Table 2 presents the ICF domains and codes documented in the source case formulation together with the functional interpretation retained in this revision. The table is intended to clarify the domains used to describe the patient's problems and contextual factors. It does not imply that the structural abnormalities shown on CT were altered by physiotherapy or that each documented code was independently revalidated during the present editorial process.

Table 2. ICF Domains and Functional Interpretation Documented in the Case

ICF domain	Code documented in source	Functional interpretation used in revision
Body function	b280	Pain
Body function	b28015	Pain in lower limb
Body function	b28016	Pain in joints, as documented in the original case formulation
Body structure	s75002/s75003	Thigh muscle or ligament structures as documented in the original case formulation
Body structure	s75012/s75013	Lower leg muscle or ligament structures as documented in the original case formulation
Activity and participation	d450	Walking
Activity and participation	d520	Caring for body parts
Activity and participation	d530	Toileting
Activity and participation	d850	Remunerative employment
Environmental factor	e310	Immediate family support

Abbreviation: ICF, International Classification of Functioning, Disability and Health. Codes are reproduced from the source case formulation and were not independently revalidated in the available record.

The original treatment goals included pain reduction, improvement of muscle strength, management of muscle tightness and anxiety, and improvement in activities of daily living. The goal of changing disc position has been removed because no outcome in this case directly assessed disc morphology or position.

Intervention delivery. The first session followed the documented multimodal protocol. At the second visit, the patient reported that radiating pain had decreased and occurred less frequently. The treatment was continued with the addition of skin rolling, deep tissue or elbow technique, friction, longitudinal massage, and McKenzie exercise. The patient tolerated the sessions without reported dizziness, nausea, or excessive fatigue. No new session 2 dose was inferred from the session 1 parameters. Where the record only indicated that a component was continued, the manuscript retains that wording rather than assuming that the same dose or sequence was repeated.

The documented intervention content is presented in Table 3 to distinguish procedures with a recorded session 1 dose from procedures that were only reported as continued or added during session 2. This distinction is important because the available record supports a descriptive account of treatment delivery but does not justify reconstruction of undocumented parameters. The table therefore preserves missing information explicitly.

Table 3. Documented Multimodal Physiotherapy Intervention Across Two Sessions

Component	Session 1, 2 May 2026	Session 2, 4 May 2026	Documentation status
Short wave diathermy	40 W, coplanar technique, 10 min	Core treatment continued according to the original report	Dose documented
Erector spinae and piriformis muscle release	5 repetitions, 3 min	Core treatment continued	Dose documented for session 1; exact session 2 dose not separately documented
Slump sciatic nerve glide	8 repetitions, 1 to 2 sets, 3 min	Core treatment continued	Dose documented for session 1; exact session 2 dose not separately documented
Bridging exercise	8 counts, 3 repetitions, 3 min	Core treatment continued	Dose documented for session 1; exact session 2 dose not separately documented
DNS level C5	8 counts, 3 repetitions, 3 min	Core treatment continued	Dose documented for session 1; exact session 2 dose not separately documented
Neuromuscular or soft connective tissue release	5 to 8 repetitions, 3 min	Additional soft tissue techniques introduced	Exact dose of added techniques not documented
Stretching	2 to 3 repetitions, 5 min; right piriformis, hamstring, erector spinae, gluteal and tensor fascia latae	Core treatment continued	Dose documented for session 1; exact session 2 dose not separately documented
Walking exercise	10 m, 2 rounds, 5 min	Core treatment continued	Dose documented for session 1; exact session 2 dose not separately documented
Additional soft tissue techniques	Not documented	Skin rolling, deep tissue or elbow technique, friction, longitudinal massage	Dose and sequence require author confirmation
McKenzie exercise	Not documented	Added at session 2	Dose and exact protocol require author confirmation

Abbreviations: DNS, Dynamic Neuromuscular Stabilization; SWD, short wave diathermy. Undocumented parameters were retained as unavailable and were not reconstructed.

The repeated clinical findings are summarized in Table 4. Across the recorded pain conditions, lower VAS scores were documented at the second assessment, together with a one grade increase in right hip flexor MMT and a change in the Lasègue finding. ODI was not reassessed and therefore cannot be interpreted as a longitudinal functional outcome.

The repeated clinical findings are summarized in Table 4. Across the recorded pain conditions, lower VAS values were documented at the second assessment, while right hip flexor MMT increased by one grade and symptom provocation during the Lasègue test occurred only beyond 90°. Because the ODI was not repeated, the table does not provide a longitudinal disability estimate.

Table 4. Observed Clinical Changes Between the Initial and Second Assessments

Outcome	Initial assessment, 2 May 2026	Second assessment, 4 May 2026	Observed change
VAS at rest	1	0	Decrease of 1 point
VAS during movement	5	1	Decrease of 4 points
VAS with palpation	7	2	Decrease of 5 points
Right hip flexor MMT	3/5	4/5	Increase of 1 grade
Lasègue test	Positive at 60°	Negative beyond 90°	Improved test finding
ODI	18/45, 40%, moderate disability	Not reassessed	No longitudinal comparison possible

Abbreviations: MMT, Manual Muscle Testing; ODI, Oswestry Disability Index; VAS, Visual Analogue Scale. ODI was assessed only at baseline.

At the second visit, the patient also reported less frequent radiating pain. The record described the patient as calmer and able to walk independently compared with the initial condition. However, a formal patient perspective was not documented as a separate CARE component. Discharge status, exact discharge date, medication changes, and structured follow up after the second session were not available in the source material. The available record did not provide a documented discharge assessment of pain, sitting, activities of daily living, or general clinical status after the second session. It also did not contain a structured follow up assessment. These missing data limit interpretation to the short observation window covered by the two physiotherapy visits.

Discussion

The principal finding of this case was a short-term temporal improvement in pain, right hip flexor MMT, and the Lasègue test across two inpatient physiotherapy sessions. VAS decreased at rest, during movement, and with palpation, while the right hip flexor score increased from 3/5 to 4/5 and the Lasègue test became negative beyond 90°. These findings describe change over time, but they do not demonstrate that the multimodal physiotherapy package caused the improvement.

The clinical presentation was compatible with documented multilevel lumbar disc herniation and possible lumbar radicular irritation. The positive Lasègue test and radiating leg pain provided support for a radicular component, whereas pain reproduction in the piriformis region raised the possibility of an additional deep gluteal component. However, the evidence was insufficient to establish piriformis syndrome or sciatic nerve entrapment as a confirmed diagnosis. Deep gluteal syndrome is diagnostically challenging and may overlap with lumbar radiculopathy.[10,11] The CT examination documented lumbar structural abnormalities but did not establish

the status of the deep gluteal space. Therefore, the revised interpretation deliberately uses suspected sciatic nerve entrapment or suspected deep gluteal involvement rather than a definitive piriformis syndrome diagnosis.

The occupational history is clinically relevant but should also be interpreted cautiously. Occupational mechanical exposures have been associated with chronic low back pain, while evidence for prolonged static sitting is less consistent than evidence for lifting or non neutral postures.[3] Fishermen may experience substantial musculoskeletal loading across multiple tasks, including sitting, handling equipment, and other physically demanding activities.[6,7,27,28] In this case, prolonged sitting on a boat is best described as a potentially relevant occupational exposure rather than a proven cause of the multilevel disc herniation.

The treatment package combined modalities that have independent evidence bases, but the available literature does not permit attribution of the observed changes to any single component. Short wave diathermy has been studied in patients with lumbar disc herniation, and neural mobilization has been evaluated in lumbar radiculopathy.[16,17] These findings provide clinical context for the treatment selection but cannot establish the contribution of either modality in a single patient receiving several treatments simultaneously. The same limitation applies to DNS, stretching, walking, and McKenzie exercise.[18–24]

The change in the Lasègue test should similarly be interpreted as an observed change in a clinical examination finding rather than proof of reduced nerve root compression. The reliability of the straight leg raise test is not perfect, and the test is influenced by the broader clinical context.[13] A change from a positive result at 60° to a negative result beyond 90° may indicate reduced symptom provocation during the second assessment, but the case cannot determine whether this reflected changes in neural mechanosensitivity, pain, patient effort, or other factors.

The one grade increase in MMT also warrants cautious interpretation. A change from 3/5 to 4/5 may reflect improved voluntary performance during the second assessment, reduced pain inhibition, altered effort, or other short-term factors. The original interpretation of early neural facilitation was therefore removed because the case did not include additional measurements capable of distinguishing neural activation from pain related or examiner related variation. The observed change is best reported descriptively. The magnitude of VAS change was substantial at the individual level, particularly during movement and palpation. However, the threshold cited in the original manuscript was derived from a postoperative lumbar spine population and should not be treated as a validated MCID for an acutely hospitalized patient receiving conservative treatment.[29] Accordingly, the present report does not classify the observed change as a definitive clinically important difference. It simply reports the magnitude of change and notes that it exceeded a threshold described in a different clinical population.

ODI provides an important limitation to interpretation of functional outcome. The baseline score of 40% indicated moderate disability, but ODI was not repeated. Consequently, the report cannot claim improvement in ODI or quantify recovery of disability. The patient's reported ability to walk independently and the clinical description of reduced pain provide useful observations, but they are not substitutes for a longitudinal functional outcome measure.

The inpatient context is also important. The patient received only two documented physiotherapy sessions within a three-day interval. Evidence supporting DNS, walking programs, and exercise-based interventions generally involves repeated sessions delivered over several weeks or longer periods.[18–20,23] This difference in treatment duration limits direct comparison between the present case and intervention trials. The case therefore contributes primarily to the description of short-term clinical management rather than to evidence of treatment efficacy.

Several alternative explanations for the observed changes must be considered. The patient was hospitalized and may have experienced changes related to rest, concurrent medical management, analgesic treatment, spontaneous recovery, or the natural history of lumbar disc herniation.[4,30] The complete medication regimen and its changes were not reported in the source record, which further limits causal interpretation. In addition, the second assessment was performed by the same physiotherapist, and repeated clinical testing can be influenced by learning, examiner expectation, and day to day symptom variability. These reporting priorities are particularly relevant in short inpatient observations.

The main strengths of this case are the detailed baseline clinical findings, documentation of multilevel imaging abnormalities, description of the multimodal physiotherapy approach, and reporting of changes in several clinical measures. The principal limitations are the single patient design, absence of a comparator, short observation period, absence of documented structured follow up, baseline only measurement of ODI, incomplete documentation of medication and comorbidity history, incomplete documentation of session specific parameters for some techniques, and uncertainty regarding the suspected deep gluteal diagnosis. These limitations substantially restrict generalizability and causal inference.

Future case series or prospective comparative studies should separate structural lumbar disc pathology from suspected deep gluteal nerve involvement using predefined clinical criteria and, when clinically indicated, appropriate imaging. Longer follow up should include repeated functional measures such as ODI and standardized activity outcomes. Studies should also report medication exposure and treatment dose clearly so that the contribution of individual physiotherapy components can be evaluated. For inpatient practice, a standardized intervention matrix and timeline would improve reproducibility and facilitate comparison across cases.

Conclusion

This case report describes the short-term clinical course of a 59 year old fisherman with documented multilevel lumbar disc herniation and suspected sciatic nerve entrapment who received two inpatient physiotherapy sessions. During the observed period, pain decreased across rest, movement, and palpation conditions, right hip flexor MMT increased from 3/5 to 4/5, and the Lasègue test changed from positive at 60° to negative beyond 90°. The baseline ODI score was 40%, but it was not reassessed; therefore, no longitudinal conclusion can be drawn regarding disability. The patient also reported less frequent radiating pain and was described as able to walk independently at the second visit, although discharge status and structured follow up were unavailable. These findings represent temporal changes observed during a brief period of multimodal inpatient management rather than evidence that the intervention caused the improvement. The contribution of individual treatment components cannot be separated, and alternative explanations, including natural clinical variation, rest, concurrent medical management, medication exposure, and measurement variability, remain possible. In addition, the suspected sciatic nerve entrapment remained a clinical hypothesis because the available assessment did not confirm a deep gluteal lesion. More complete reporting of medication exposure, comorbidities, session specific treatment parameters, discharge status, repeated functional outcomes, and longer follow up would improve the interpretability of similar reports. Comparative or prospective studies are required to evaluate the durability and causal contribution of multimodal physiotherapy in comparable inpatient populations.

Author Contribution

Avriani Putri Palimbong: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing Original Draft.
Andi Besse Ahsaniyah: Conceptualization, Methodology, Clinical Assessment, Investigation, Writing Review and Editing.
Sri Wahyuni: Supervision, Methodology, Clinical Supervision, Writing Review and Editing.
All authors have read and approved the final version of the manuscript.

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Conflict of Interest Statement

The authors declare that they have no competing interests or conflicts of interest related to this study or the publication of this case report.

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Ethics Statement

This case report was conducted in accordance with the ethical principles of the Declaration of Helsinki. Written informed consent was obtained from the patient for participation in physiotherapy management and for the publication of anonymized clinical information. The source manuscript states that formal ethical approval was not required for this single-patient case report according to applicable institutional and national regulations. No ethics committee name or approval reference number was provided in the available manuscript.

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